



Grasping Nutrition Concepts

Following the Dietary Guidelines

The *Dietary Guidelines for Americans*, 2000, developed by the United States Department of Agriculture (USDA) and the Department of Health and Human Services (DHHS), provide general diet and lifestyle recommendations for healthy Americans ages two years and over. Try to follow these guidelines when planning menus for the children in your care and when making food choices for yourself.

- **Aim for fitness.**

Aim for a healthy weight.

Be physically active each day.

- **Build a healthy base.**

Let the Pyramid guide your food choices.

Choose a variety of grains daily, especially whole grains.

Choose a variety of fruits and vegetables daily.

Keep food safe to eat.

- **Choose sensibly.**

Choose a diet that is low in saturated

fat and cholesterol and moderate in total fat.

Choose beverages and foods to moderate your intake of sugars.

Choose and prepare foods with less salt.

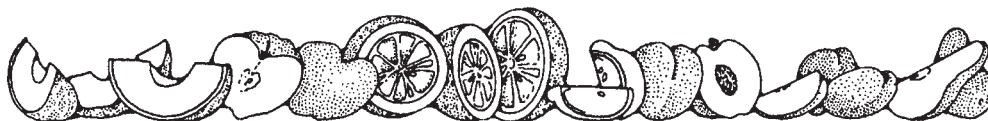
If you drink alcoholic beverages, do so in moderation.

Key Elements of the Dietary Guidelines

Healthful diets include a variety of nutritious foods from all food groups. It is important to remember that no single food can supply all necessary nutrients. All foods can be part of a healthy diet.

When planning meals, moderation is always the key. Eating too much or too little of any one food or nutrient can be unhealthy.

Good health depends on a number of factors, including: diet, heredity, lifestyle (dietary patterns, physical activity, occupation), health care and the environment.





Using the Food Guide Pyramid

The **Food Guide Pyramid**, shown on the next page, is a graphic illustration of the *Dietary Guidelines*. The Food Guide Pyramid helps you choose what and how much to eat from each food group to get necessary nutrients and not too much fat, saturated fat, cholesterol, and sugar. The food groups include: (1) the bread, cereal, rice and pasta group; (2) the vegetable group; (3) the fruit group; (4) the milk, yogurt and cheese group; and (5) the meat, poultry, fish, dry beans, eggs and nuts group.

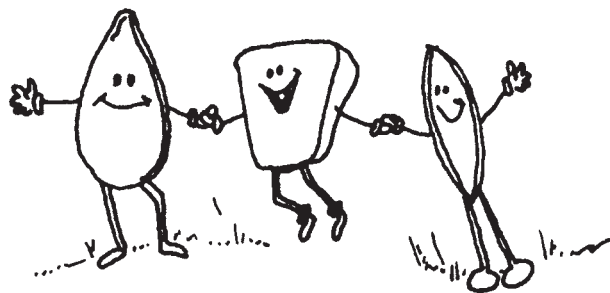
The base of the pyramid emphasizes the consumption of bread, cereals, rice, pasta, vegetables and fruits. The *Dietary Guidelines* recommend moderate intakes of foods that contain fat and a low intake of saturated fat and cholesterol. The Dietary Guidelines also recommend moderating the intake of sugars. The small tip shows that fats, oils and sweets should be used sparingly because they provide calories and little else nutritionally.

The Food Guide Pyramid recommends a range in the number of servings of foods that should be eaten daily. Preschool children need the same variety of foods as older family members do, but may need fewer calories. For fewer calories, they can eat the lower number of the range of daily suggested servings. Also, limit the amount of added fats, oils and sweets at the top of the pyramid.

Throughout the Pyramid, tiny circles symbolize naturally occurring and added fat. Tiny triangles symbolize sugar added to foods in processing or at the table.

These symbols show that many foods contribute fat and sugar to the diet.

Each of the food groups of the Food Guide Pyramid provides important nutrients. Because one food group cannot provide all necessary nutrients, it is important to choose foods daily from all food groups.

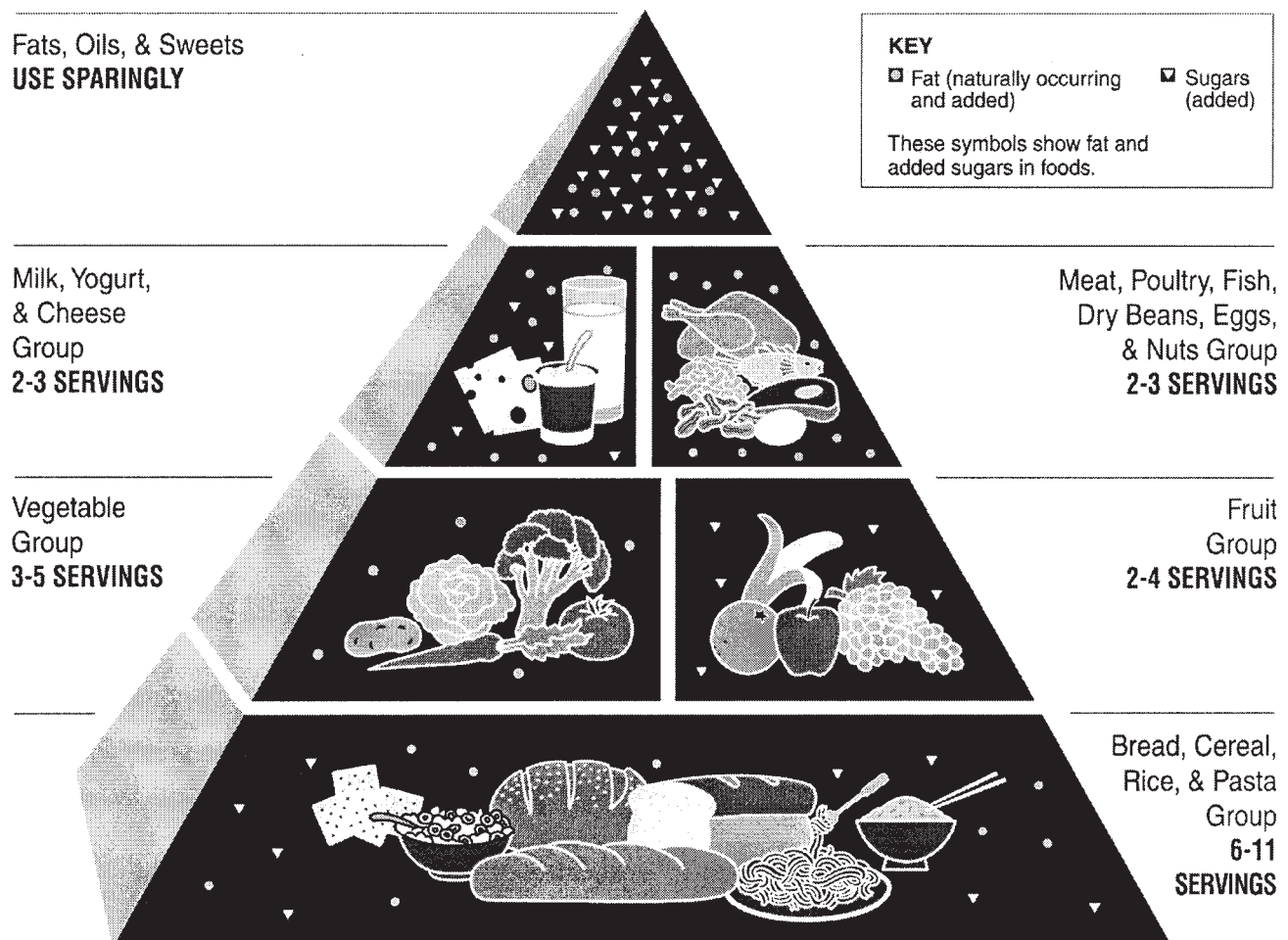


Food Group	Source Of
Bread, Cereal, Rice and Pasta Group	carbohydrate, fiber, riboflavin, niacin, thiamin, folate, iron
Vegetable Group	complex carbohydrate, fiber, vitamins A, B-6 and C, folate, potassium, iron, magnesium
Fruit Group	carbohydrate, fiber, potassium, folate, vitamin A, vitamin C
Meat, Poultry, Fish, Dry Beans, Eggs and Nuts Group (Choose cooked dry beans and peas, fish, and lean meats and poultry with skin taken off the poultry.)	protein, iron, phosphorus, potassium, B vitamins
Milk, Yogurt and Cheese Group (Choose fat-free or low fat dairy products.)	protein, carbohydrate, calcium, phosphorus, vitamins A, B-12 and D, riboflavin



Food Guide Pyramid

A Guide to Daily Food Choices



Source: U.S. Department of Agriculture/U.S. Department of Health and Human Services

Use the Food Guide Pyramid to help you eat better every day....the Dietary Guidelines way. Start with plenty of Breads, Cereals, Rice, and Pasta; at least two servings of Fruits and three servings of Vegetables. Add two to three servings from the Milk group and two to three servings from the Meat and Bean group.

Each of these food groups provides some, but not all, of the nutrients you need. No one food group is more important than another--for good health you need them all. Go easy on fats, saturated fats, oils, and sweets, the foods in the small tip of the Pyramid.

For more information on the Food Guide Pyramid go to the United States Department of Agriculture's Center for Nutrition Policy and Promotion website at <http://www.cnpp.usda.gov>



Understanding Nutrition

Many different nutrients are needed for good health. These include **carbohydrate, fat, protein, vitamins, minerals and water**. Most foods contain more than one nutrient.

The amount of energy that can be provided by a food is measured in calories. Carbohydrate, fat and protein provide calories to the body. If a person does not eat enough calories, the body uses protein and fat stores for energy. Eating too many calories will result in weight gain. The number of calories from a food depends on how much protein, carbohydrate and fat are present.

Descriptions of the six nutrients follow.

Carbohydrate

Foods supply carbohydrate in three forms: **sugars, starches and dietary fiber**. One gram of carbohydrate provides four calories.

Sugars contribute calories but few vitamins and minerals. There are many different types of sugars. They include: brown sugar, cane sugar, corn sweetener, corn syrup, dextrose, fructose, glucose, high fructose corn syrup, honey, invert sugar, lactose, malt syrup, maltose, maple syrup, molasses, sucrose and sugar syrup.

Starch is a major source of energy. Sources of starch are: grains (wheat, oats, corn, rice, etc.) and products made from grains such as flour, pasta, breads and cereals. Vegetables such as potatoes,

sweet potatoes, dry beans and dry peas are also sources of starch.

Dietary fiber is present in plant foods. It is not broken down during digestion. Eating fiber-containing foods, such as fruits, vegetables and whole grains promotes proper bowel function. Dietary fiber provides bulk for stool formation and prevents constipation.

Consumption of dietary fiber may help satisfy the appetite by creating a satisfying full feeling. Eating plenty of fruits, vegetables and whole grain foods as part of a healthy eating pattern may also help protect against some chronic diseases.

Sources of dietary fiber are vegetables, fruit, dry beans and peas, and whole grain products such as brown rice, bulgur, whole grain corn, oatmeal, popcorn, pearl barley, whole oats, whole rye and whole wheat.

See the chapter, "Modifying Recipes and Menus to Meet the *Dietary Guidelines for Americans*", for tips on increasing dietary fiber.





Fat

Fats supply energy and essential fatty acids. Fats are the most concentrated energy source in the diet. They provide nine calories of energy per gram, twice as many calories per gram as provided by protein or carbohydrate.

The foods you eat should contain some fat. Fats are required for brain development, vision and the formation of some hormones. Fatty acids are carriers of the fat-soluble vitamins (vitamins A, D, E and K).

The *Dietary Guidelines for Americans* recommend that **30% or less of a diet's total calories come from fat and that less than 10% of calories come from saturated fat.**

Saturated fatty acids are present in many foods. Animal foods contain more saturated fats than plants. Foods high in saturated fats tend to raise blood cholesterol. These foods include high fat dairy products (cheese, whole milk, cream butter, and regular ice cream), fatty fresh and processed meats, skin and fat of poultry, lard, palm oil and coconut oil. Keep your intake low for these foods.

Products containing hydrogenated vegetable oils, such as shortening and stick margarine, may contain trans fatty



*HINT: The Dietary Guidelines recommend that **30% or less of a diet's total calories come from fat and less than 10% of calories come from saturated fat.***

acids. Trans fatty acids act like saturated fatty acids in that they tend to raise blood cholesterol. Other foods that may contain hydrogenated oils include commercially fried foods and baked products (cookies, crackers, muffins, snack foods, chips, pie crust, French fries, doughnuts, etc.)

Unsaturated fats are liquid at room temperature. Unsaturated fats (oils) do not raise blood cholesterol. Unsaturated fats occur in vegetable oils, most nuts, olives, avocados, and fatty fish like salmon. Monounsaturated and polyunsaturated oils are both unsaturated fats. Olive, canola and peanut oils are high in monounsaturated fatty acids. Polyunsaturated fats are found in soybean oil, corn oil, cottonseed oil and many kinds of nuts. Some fish, such as salmon, tuna, and mackerel, contain omega-3 fatty acids that are being studied to determine if they offer protection against heart disease. Use moderate amounts of food high in unsaturated fats. Avoid excess calories.

Total Daily Calories	Fat (no more than 30% of calories)	Saturated Fat (less than 10% of calories)
1000 calories	33 grams	< 11 grams
1500 calories	50 grams	< 16 grams
2000 calories	66 grams	< 22 grams
2500 calories	83 grams	< 27 grams



Cholesterol is a fat-like substance found in humans and animals. Foods that are high in cholesterol also tend to raise blood cholesterol. These foods include liver and other organ meats, egg yolks, and dairy fats. In addition to getting cholesterol from food, our bodies make cholesterol.

For information on fat content in foods, see the section, “Understanding Food Labels: What’s in a Food?” Also, for information on reducing fat in recipes or menus, see the section, “Modifying Recipes and Menus to Meet the *Dietary Guidelines for Americans*.”

Protein

Proteins are made of amino acids and are needed for growth, maintenance and replacement of body tissues. They also form the hormones and enzymes used to regulate body processes. Each gram of protein provides four calories of energy. Excess protein may be used by the body for energy or stored as body fat.

Vitamins

Vitamins are substances needed by the body in very small amounts. Many chemical reactions in the body depend on vitamins. They help release energy from carbohydrate, fat and protein.

Minerals

Minerals are needed in small amounts. Calcium, phosphorus and fluoride are used to build strong bones and teeth. Iron is used to make hemoglobin in red blood cells. Iodine is used to make thyroid hormone. Minerals maintain body fluids and chemical reactions.

The *Dietary Guidelines* suggest that you choose and prepare foods with less salt. Most of the salt you eat comes from foods that have salt added during food processing or during preparation in a restaurant or at home.

Salt is the main source of sodium in foods. Table salt contains sodium and chloride. Both minerals are needed only in small quantities by the body. Too much sodium has been related to high blood pressure.

For information on reducing sodium in recipes, see the section, “Modifying Recipes and Menus to Meet the *Dietary Guidelines for Americans*.”

Water

Water is needed to replace body water lost in urine and sweat. It helps transport nutrients, remove wastes and regulate body temperature. Water is an important part of an adequate diet.



The Dietary Guidelines apply to the diet over several days, not to a single meal or food.



Nutritive Value Of Foods

To include the greatest amount of nutrients and meet the *Dietary Guidelines for Americans*, choose a variety of foods for each meal throughout the week. Some foods provide more nutrients than others. A food may be a good source of some vitamins and minerals, but still lack other important ones. A “perfect” food with all essential nutrients does not exist. Also, by regularly serving a variety of foods, children will not become bored with the foods offered and will learn healthy food habits.



Examples of foods that are sources of various nutrients are listed below.

Food groups referenced are based on CACFP meal pattern components. Examples provided are creditable foods.

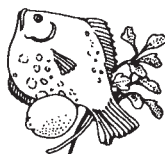
Protein

Protein is important for the continued growth, regulation and maintenance of the body's tissues. Some examples of foods that are sources of protein include:

Meat/Meat Alternates: lean beef, low-fat cheeses, dry beans, dry peas, fish, lentils, nuts, nut butters, eggs, lean pork, poultry, low-fat yogurt

Milk: fluid low-fat or fat-free milk

Vegetables: dry beans, dry peas



Fiber

Fiber promotes the elimination of the body's waste. Eating plenty of fiber rich foods as part of a healthful eating pattern may help protect against chronic diseases. It also satisfies the appetite by creating a full feeling.

Foods that are sources of fiber include:

Fruits: apples, bananas, blueberries, cantaloupe, cherries, peaches, pears, prunes, oranges, raspberries, strawberries

Vegetables: broccoli, carrots, cauliflower, celery, corn, green beans, peppers, potatoes, tomatoes

Grains/Breads: whole grain products (made from whole grain corn, whole oats, whole rye, or whole wheat), brown rice, bulgar, oatmeal, pearl barley

Meat/Meat Alternates: dry beans, dry peas, lentils

Iron

Iron, a mineral, functions primarily as a carrier of oxygen in the body, both in the blood and muscles.

Sources of iron include:

Meat/Meat Alternates: dry beans, dry peas, eggs, lean meat, poultry

Grains/Breads: whole grain, fortified or enriched breads and cereals

Vegetables: dark green leafy vegetables, dry beans, dry peas, lima beans



Calcium

Calcium, a mineral, is important for the growth and maintenance of bones and teeth. It is also necessary for muscle contraction, blood clotting, and maintenance of cell membranes.

Food sources of calcium include:

Milk: fluid low-fat milk

Vegetables: broccoli, spinach, turnip greens, collards

Fruits: oranges, calcium-fortified orange juice

Meat/Meat Alternates: low-fat cheeses, low-fat yogurt, canned salmon or sardines

Grains/Breads: calcium fortified breads and breakfast cereals (read the label).

Vitamin C

Vitamin C, a water soluble vitamin, is important in the formation of collagen, a protein that gives structure to bones and muscles. Vitamin C also aids in the absorption of iron. It is an antioxidant.

Foods sources of vitamin C include:

Fruits: cantaloupe, citrus fruits and juices (grapefruit, orange, etc.), kiwi, pineapple, strawberries, raspberries, watermelon

Vegetables: asparagus, broccoli, cabbage, cauliflower, kale, peppers, sweet potatoes, tomatoes, romaine lettuce, spinach, and mustard greens.

Vitamin A

Vitamin A, a fat soluble vitamin, is important for the formation and maintenance of healthy skin, hair, and mucous membranes. Vitamin A helps people see in dim light.

Food sources of vitamin A include:

Fruits: cantaloupe, mandarin oranges, mangos, nectarines, peaches, plums

Vegetables: broccoli, carrots, greens, kale, pumpkin, spinach, winter squash, sweet potatoes, tomatoes, snow peas

Meat/Meat Alternates: liver, whole eggs, low-fat yogurt

Milk: fluid low-fat or fat-free milk



Vitamin E

Vitamin E, a fat soluble vitamin, is an antioxidant. It stabilizes cell membranes and regulates oxidation reactions.

According to the Institute of Medicine (2000), most Americans consume enough vitamin E to meet recommendations because it is abundant in foods. The best sources of vitamin E are vegetable oils--for example, soybean, corn, cottonseed, and safflower. That includes margarine, salad dressing, and other foods made from oil. Nuts (especially almonds and hazelnuts), seeds (especially sunflower seeds), and wheat germ. All of these are high in oil. Green, leafy vegetables provide smaller amounts.



Folate

Folate, a water soluble B vitamin, helps the body form red blood cells and aids in the formation of genetic material in cells.

Food sources of folate include:

Meat/Meat Alternates: black-eyed peas, lentils, liver, red kidney beans

Vegetables: leafy green vegetables such as spinach and mustard greens, romaine lettuce, green peas

Grains/Breads: whole grain bread products, fortified ready-to-eat cereals

Fruits: oranges, orange juice, tangerines, melons, plums, raspberries, strawberries

B Vitamins

Other B vitamins include: thiamin, riboflavin, niacin, vitamin B₆ and Vitamin B₁₂. These B vitamins have important roles in converting food to energy for the body during metabolism.

Vitamin B₁₂ is found only in animal-based foods or Vitamin B₁₂ fortified foods. Food sources of B vitamins include:

Grains/Breads: Enriched and fortified bread and cereal products are good sources for thiamin, riboflavin and niacin.

Meat/Meat Alternates: Lean pork products, dry beans and peas are good sources for thiamin; liver contains riboflavin; and poultry and fish are good sources for niacin.

Milk: Fluid low-fat or fat-free milk is a good source of riboflavin.

What's in a Meal?

Foods Higher in Fat, Salt and Sugar

The *Dietary Guidelines for Americans* recommend choosing a diet that is moderate in total fat, salt and sugar. Following are some common foods that may be higher in fat, sugar and/or salt. These foods should be served occasionally.

Foods that are higher in fat:

cream soups	granola bars
full fat cheese	organ meats
pie crust	snack crackers
croissants	salad dressing
Danish rolls	processed meats
bacon/sausage	butter/margarine
cakes/cookies	lard/shortening
cheese	fried foods
ice cream	whole milk

Foods that are higher in salt:

pickles	barbecue sauce
relish	canned soups
bouillon	canned vegetables
catsup	processed cheese
salted nuts	meat tenderizer
soy sauce	luncheon meats
mustard	cured meats
salted pretzels	salad dressing
steak sauce	potato/tortilla chips

Foods that are higher in sugar:

soft drinks	fruitades/fruit punch
cakes	pre-sweetened cereals
pastries	cookies and bars
granola bars	toaster pastries
sweet rolls	flavored milk
doughnuts	pie filling
candy	dairy desserts



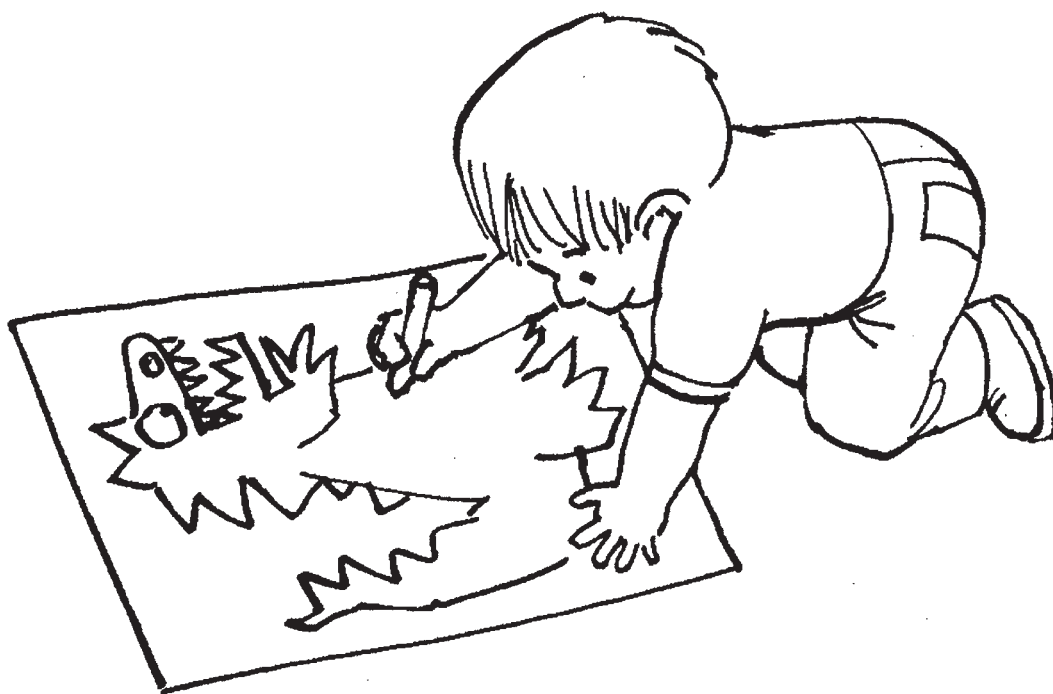
Sample Menus

Planning menus means more than just thinking of foods that taste good together. The nutritive value of foods must be considered.

On the next page is a sample of menus for five days including breakfast, morning snack, lunch, afternoon snack and supper. These menus follow the *Dietary Guidelines* and meet the Child and Adult Care Food Program meal pattern requirements for children 3-5 years old. Meal pattern requirements are listed in "Crediting Foods."

The *Dietary Guidelines* apply to the diet over several days, not to a single meal or food. An occasional high-fat, sugary or salty food can fit into a diet if balanced with other low-fat, low-sugar or low-salt foods. Therefore, many meals must be included when determining if the *Dietary Guidelines* are being followed.

Computer programs that analyze the nutritional values of meals are available if you would like to evaluate menus. Using one of these computer programs, a nutrient analysis of the sample weekly menu shows that no more than 30% of calories comes from fat and less than 10% of calories comes from saturated fat.





Sample Menus for Children (ages 3-5)

Requirements	1st Day	2nd Day	3rd Day	4th Day	5th Day
Breakfast grains/breads (including cereal juice or fruit or vegetable milk, fluid	oatmeal (1/4 c) with sugar (1 tsp or less) orange juice (1/2 c) low-fat milk (3/4 c)	waffle (0.6 oz) fresh peach slices (1/2 c) low-fat milk (3/4 c)	raisin bran cereal (1/3 c) grapefruit juice (1/2 c) *whole wheat toast (1/2 slice) low-fat milk (3/4 c)	coffee cake (1.3 oz) melon balls (1/2 c) low-fat milk (3/4 c)	whole wheat toast (1/2 slice) *scrambled egg (1/4 c) mixed fresh fruit (1/2 c) low-fat milk (3/4 c)
AM Snack (select 2 of 4) milk, fluid juice or fruit or vegetable grains/breads meat or meat alternate	fresh nectarines (1/2 c) cinnamon-raisin toast (1/2 slice) water (1/2 c)	bran muffin (1 oz) low-fat milk (3/4 c)	grape juice (1/2 c) English muffin (1/2 muffin) *1 tsp margarine *1 tsp jelly	yogurt (1/2 c) peaches (1/2 c) water (1/2 c)	apple juice (1/2 c) banana nut muffin (1 oz)
Lunch meat or meat alternate vegetables and/or fruits (2 or more) grains/breads milk, fluid	turkey (1 oz) and Swiss cheese (0.5 oz) on whole wheat bread (1 slice) *thin slice tomato *1/4 leaf lettuce oven baked fries (1/4 c) strawberries (1/4 c) low-fat milk (3/4 c)	ground beef chili with beans (1.5 oz) beef and beans, 1/4 c tomato) *rice (1/4 c or less) cornbread (1 slice) pear halves (1/4 c) low-fat milk (3/4 c)	grilled chicken (1.5 oz) whole wheat bun (0.5 oz) peas (1/4 c) applesauce (1/4 c) low-fat milk (3/4 c)	tuna salad (1.5 oz tuna) whole wheat bread (1 slice) coleslaw (1/4 c) blueberries (1/4 c) low-fat milk (3/4 c)	hamburger (1 oz beef) with cheese (0.5 oz) whole wheat bun (0.5 oz) *1/4 lettuce leaf *thin slice tomato green beans (1/4 c) canned pears (1/4 c) low-fat milk (3/4 c)
PM Snack (select 2 or 4) milk, fluid juice or fruit or vegetable grains/breads meat or meat alternate	*apple sections (2-3) granola cookie (1 oz) low-fat milk (3/4 c)	banana (1/2 c) graham crackers (2 squares) water (1/2 c)	orange sections (1/2 c) bagel (1/2 bagel) water (1/2 c)	broccoli/ cauliflower (1/2 c) *low-fat vegetable dip (1 Tbsp or less) saltine crackers (4 crackers)	applesauce (1/2 c) melba toast (0.4 oz) water (1/2 c)
Supper meat or meat alternate vegetables and/or fruits (2 or more) grains/breads milk, fluid	spaghetti (1/4c) meat balls (1.5 oz beef) tomato sauce (1/4 c) *grated Parmesan cheese (1 tsp) green beans (1/4 c) Italian bread (0.5oz) *1 tsp margarine low-fat milk (3/4 c)	baked chicken (1.5 oz) cooked broccoli (1/4 c) mashed potatoes (1/4 c) whole wheat roll (0.5 oz) *1 tsp margarine low-fat milk (3/4 c)	breaded fish fillet (1.5 oz fish) cooked carrots (1/4 c) boiled potato (1/4 c) cracked wheat roll (0.5 oz) low-fat milk (3/4 c)	chicken tacos (1 oz chicken and 0.5 oz cheese) lettuce & tomatoes (1/4 c) taco shell (0.5 oz) corn (1/4 c) fruit cocktail (1/4 c) low-fat milk (3/4 c)	roast pork (1.5 oz) corn (1/4 c) mixed greens (1/4 c) with 1 Tbsp buttermilk dressing whole wheat roll (0.5 oz) low-fat milk (3/4 c)

*Food items served in addition to the required components of the CACFP meal pattern to increase variety, appeal, nutrient content and calories.



Vegetarian Diets

Vegetarian diets omit meat or all animal products.

There are many different types of vegetarian diets.

- **vegan** (pure vegetarian): will not eat any foods of animal origin
- **lacto-vegetarian**: will consume milk, yogurt and cheese products but will not consume other animal foods
- **lacto-ovo-vegetarian**: will consume milk, milk products and eggs, but not meat
- **pesco-vegetarian**: will consume milk, yogurt, cheese products, eggs and fish, but not any other animal foods

If These Foods Are Excluded	These Are Limited	Include These Foods If Possible*
Meat, fish, poultry	Protein, iron, energy, zinc, folate, vitamin B ₁₂ , thiamin, essential fatty acids	Milk, dairy products, grains, legumes
Milk, dairy products	Protein, energy, calcium, vitamin B ₁₂ , vitamin D, riboflavin	Legumes, soy-milk (fortified)**, dark green vegetables

* There are no perfect substitutes for animal foods. Because nutrients may be lacking in diets where meat is not consumed, these foods are recommended to replace some of the nutrients.
 ** Use of soy milk in the CACFP requires a statement signed by a medical authority.

Whenever food choices are limited, it is more difficult to meet the body's needs for energy and essential nutrients. Vegetarian diets specifically may lack

calories, protein, essential fatty acids, calcium, iron, zinc, riboflavin, vitamin B₁₂ or vitamin D. A child's growth and development may be stunted when food energy is less than needed.

Vegetarian diets may be accommodated within the Child and Adult Care Food Program meal pattern. For example, dry beans can be served in place of meat. A registered dietitian, sponsor or State agency can provide more information on feeding children who are vegetarians.



Dental Health

Nutrition plays an important role in the development of healthy teeth. To promote dental health:

- Eat foods rich in calcium and phosphorus.
- Choose beverages and food to moderate your intake of sugars.
- Eat a variety of firm, fibrous foods to stimulate the release of saliva.
- Brush teeth or rinse mouth thoroughly with water after eating.
- Brush and floss teeth daily.



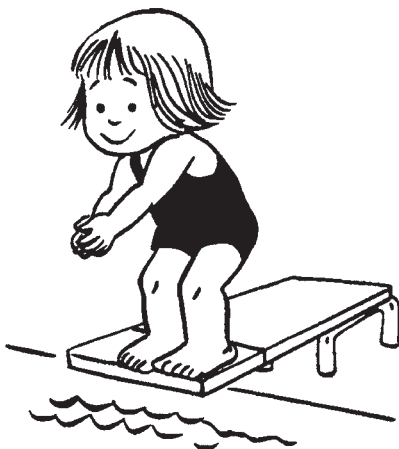
Physical Activity

Physical activity is important for maintaining good health. It burns calories, aids in weight control and helps prevent some chronic diseases. Strength, flexibility, and heart and lung fitness can be improved by participating in physical activities.

There are many types of exercise that children enjoy. Because younger children may not have skills needed for organized sports, active games are usually the best form of exercise. Younger children love to dance or play games such as “tag,” “follow the leader,” “catch” or “duck, duck, goose.”

Older children have better developed motor skills. They can participate in many activities including cycling, skating, swimming or team sports.

Try to encourage all children to exercise and participate in a variety of activities. Aim to accumulate at least 30 minutes (adults) or 60 minutes (children) of moderate physical activity most days of the week, preferably daily. Success in physical activities and being part of a group can help build a child's self-esteem while maintaining good health.



Drug and Nutrient Interaction

Medications should be taken only as prescribed by a child's physician. Some medications may affect the body's use of foods. Other times, foods may interfere with a medicine's effectiveness in the body.

If a child is taking medication, ask the parent to provide information or ask a registered pharmacist at a hospital or local drug store about restrictions.

Children with Special Nutrition Needs



Child care personnel should never diagnose health conditions; prescribe nutritional requirements; nor revise, change or interpret diet statements.

More information than that provided here will be needed to care for children with special needs.

Overweight and Underweight Children

It is important that growing children have healthy diets. Children must eat enough food to allow for adequate height and weight gain.

The diets of children who are overweight or underweight may need careful planning and monitoring. Foods, and the amounts served, must be selected wisely. Physical activity is an important component in maintaining proper weight.



Overweight Children

Overweight children should not be put on strict weight-loss diets. Children should be fed enough food to maintain a constant weight. By doing this, children can safely “grow out” of their overweight condition.

Diets that are too restrictive may be harmful to children. However, it is a good practice to limit the consumption of snack foods that are high in calories, fat and/or sugar, such as potato chips or cookies. Fruits or vegetables are healthier choices for snacks.

Special weight-loss diets for children who are overweight should only be prescribed by a physician or other medical authority.

Underweight Children

Many children are underweight for a short period of their childhood when they are “sprouting up.” With time, their weight will catch up to their height.

Underweight children can safely gain weight, while staying physically active, by increasing caloric intake. Rather than increasing high-fat, high sugar foods, add nutrient dense foods to the diet to increase calories.

Food Allergies and Food Intolerances

A food allergy is usually caused by the body’s immune system not reacting to a food or food additive appropriately. Symptoms include: wheezing, runny nose, bronchitis, vomiting, diarrhea, rashes, itching and headaches. Food intolerances

cause the body to react to a food but do not involve the immune system.

Food allergies are most common in infants, due to their immature digestive systems. Infant food allergies are usually outgrown during a child’s preschool years.

Foods which cause allergic reactions can be eliminated from the diet. However, it is important that the diet still contain a variety of foods for healthy growth and development. The most common food allergies in children are milk, egg, soy, peanuts, nuts, shellfish, and wheat.

Information about food allergies and food intolerances should be provided by the child’s parent(s) and supported by a physician’s statement.

Children may be sensitive to the following foods or ingredients:

- **flour and baked products:** The consumption of flour and baked products must be carefully watched in persons who are gluten intolerant (Celiac disease). Gluten is a protein found in wheat, oats, rye and barley.
- **tartrazine (food color, Yellow Number 5):** An allergic reaction may result from the consumption of foods such as orange drinks, dry mix macaroni and cheese, and salad dressing that contain tartrazine.
- **sulfites:** Individuals with asthma may be sensitive to sulfites. Sulfites are often added to dried fruit and vegetables.



- **lactose:** Lactose, commonly referred to as “milk sugar,” is found in milk and milk products containing milk or milk solids. Persons with lactose intolerance lack the enzyme needed for the digestion of lactose. Some non-dairy foods may include ingredients that contain lactose. Look for the words lactose, whey, nonfat milk solids, and sweet or sour cream. Some baked and processed foods may contain lactose. African-Americans, Native Americans and Asians are particularly susceptible to lactose intolerance.
- **casein:** Some individuals may be sensitive to casein, a milk protein. In addition to milk, casein may be found in canned tuna, non-dairy creamers and baked goods such as crackers. Look for the words lactose, whey, nonfat milk solids, and sweet or sour cream.
- **peanuts and tree nuts:** Nuts may cause severe reactions in individuals allergic to them. It is important to read labels carefully.

Diabetes

Special diets may be prescribed by a physician for persons who are diagnosed with diabetes. Diabetes is a disorder in which the body is unable to produce or respond to insulin. There are two forms.

Children may suffer from Type I or insulin dependent diabetes mellitus. This requires insulin injections. Nutrition plays an important role in the control of Type I diabetes.

The second form of diabetes, Type II or non-insulin dependent diabetes, is common in adults. However, increasing numbers of children are being diagnosed with this form of diabetes because of the increased number of overweight children. Overweight is the major nutritional risk for developing this disease.

Iron Deficiency

Iron deficiency is most common in inner cities and rural areas. Individuals with iron deficiency may appear to be tired, unmotivated and apathetic. Iron deficiency may be caused by an inadequate intake of iron, poor absorption of iron or severe blood loss.

Some sources of iron include fortified bread and cereals, meat, dry beans and dark green leafy vegetables. Iron absorption increases when a good source of vitamin C is eaten at the same time as an iron-rich food. A high fiber intake, tea, coffee and some antacids can decrease iron absorption.





Children With Oral Motor Problems

Children with oral motor problems may need special equipment and/or assistance with eating. Food texture often will need to be modified. Physicians or other medical authorities will be able to provide guidance about obtaining special equipment and preparing special foods.

Developmental Disabilities

A child with developmental disabilities may or may not be able to eat foods recommended for his or her age group. Foods appropriate for younger children may be required or textures of foods may need to be modified. The child may need assistance with eating and may require longer meal service times so that an adequate amount of food is eaten. Some children with developmental disabilities may need to be tube fed.

Inherited Metabolic Disorders

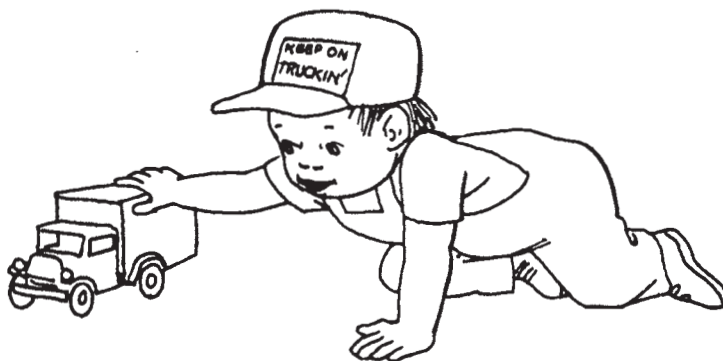
Inherited metabolic conditions include phenylketonuria (PKU), maple syrup urine disease, homocystinuria and galactosemia. Physicians will prescribe special diets for children who have these conditions.

Children with PKU are unable to digest the amino acid, phenylalanine. Phenylalanine is found in high protein foods and foods that contain the non-caloric sweetener aspartame (NutraSweet).

Children with maple syrup urine disease or homocystinuria will have diets prescribed that limit certain amino acids.

Children who suffer from galactosemia cannot digest galactose, which is found in milk products. Milk, milk products and other foods that contain galactose should be eliminated from the diet.

A child whose disability restricts his or her diet shall be provided food substitutions only when supported by a statement signed by a licensed physician. The supporting statement shall identify: the individual's disability and an explanation as to why the disability restricts the child's diet; the major life activity affected by the disability; the food or foods to be omitted from the child's diet; and the food or choice of foods that must be substituted. Such meals or snacks shall be claimed at the same reimbursement rate as meals/snacks which meet the meal pattern. The services of a registered dietitian should be utilized to assist in implementing the physician's prescription.





Formation of Eating Habits

Eating habits are formed during the early childhood years and last a lifetime. Good eating habits do not just happen; they must be learned. Presenting children with nutritious foods and limiting their access to “empty calorie” foods can help children learn to make nutritionally sound food choices.

It is important that mealtime be a happy time. Pleasant eating experiences can lead to positive attitudes about food and eating.

- Try to understand each child’s personality and reaction to foods.
- Encourage children to do as much as possible for themselves. First efforts are an important step toward growth.



Children may be in no hurry to eat once the first edge is taken off their hunger. Urging children to “hurry up” may spoil their pleasure of eating.

Introducing New Foods

- Introduce only one new food at a time. Offer a very small amount of the new food at first, so that a child learns new flavors and textures. It is best to offer a new food at the beginning of the meal when children are hungry. Also, allow children plenty of time to look at and examine foods.
- Do not introduce a new food to a child who does not feel well or is irritable.

- If you offer a new food and children turn it down, do not make a fuss. Offer the food again a few days later.
- If children accept a new food, let them try it again soon so they become accustomed to it.

Encouraging Favorable Food Attitudes and Good Eating Habits

- Serve meals in a bright and attractive room.
- Use tables, chairs, dishes, glasses, silverware and serving utensils that suit young children.
- Provide a quiet time just before meals so that the atmosphere can be friendly and relaxed at mealtime.
- Encourage children to help by setting the table, bringing food to the table or clearing and cleaning the table after eating.
- Select and arrange food on plates to make meals interesting and attractive. Include a variety of colors, flavors, textures, shapes and temperatures.
- Do not encourage the “clean plate” ideal. Children may learn to overeat if they are told to finish their meals or clean their plates too often.
- Do not allow children to use food to gain attention.
- Do not use food as a reward and punishment (Do not ask children to eat vegetables so they can have dessert).
- Do not withhold food for punishment.



Nutrition Education

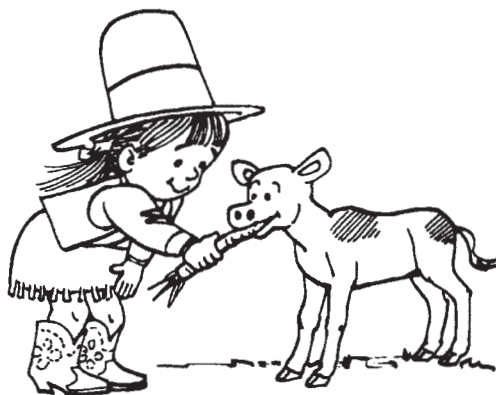
Teaching nutrition and healthy food practices is most effective when it is part of other learning experiences. Learning is reinforced when children have an opportunity to practice or visualize what is taught.

Here are some nutrition activities that children can do:

- Squeeze oranges and drink the juice for snacks. Roll the oranges on a hard surface, such as a table or counter before juicing.
- Mix a variety of fruits together to make a salad for lunch.
- Grow a potato in water to show how the plant grows from the stored food in the potato.
- Celebrate special occasions like Halloween by baking pumpkin muffins or Washington's birthday by preparing a cherry cobbler.
- Freeze juice in small paper cups to make "juice-sicles." Changes in texture, volume and consistency can be observed.
- Role-play in a supermarket setting. This could include selecting foods, putting foods in food groups and exchanging money tokens.
- Children can learn about many cultural groups by sharing favorite family menus, recipes, special foods and traditions of their ethnic heritage.
- Children can share holiday traditions and special foods.
- Feature foods from different cultures throughout the year.

Children can learn many things from trips to farms, grocery stores, dairies, bakeries or food companies.

- On a trip to a farm, children can observe cows being milked and learn how milk gets from the farm to the container.
- At a bakery, children can learn how bread is made.





Questions and Answers

Q1. Due to its high fat and cholesterol content, should cheese be served to children?

A1. Cheese is a good source of protein, calcium and riboflavin. If cheese is served frequently, use low-fat cheese. Examples of low-fat cheeses include: mozzarella and ricotta made from part-skim milk, farmer cheese, feta and low-fat or reduced-fat American or cheddar. These usually contain 5 or 6 grams of fat per ounce. Low-fat cottage cheese made from 2% or 1% milk fat can also be served.

Q2. What is the difference between ice cream and frozen yogurt?

A2. Frozen yogurt is typically lower in fat and higher in protein than ice cream. Ice cream contains 10-18% fat or more by weight. Because there is no standard of identity for frozen yogurt, frozen yogurt can be found with varying levels of fat, sugar and other ingredients. Low-fat ice cream is another alternative to regular ice cream. Frozen yogurt and low fat ice cream are not necessarily lower in calories than regular ice cream. These frozen dairy products do not contribute toward any component of the Child and Adult Care Food Program meal pattern.

Q3. What is the difference between butter and margarine?

A3. Both margarine and butter get 100% of their calories from fat.

Butter is a fat made from milk. Margarine is made from vegetable oil. Hydrogenation is the process of making it solid. Margarine may be liquid, soft or stick and has variation in the level of saturated, monosaturated, polyunsaturated and trans fatty acids. Both butter and margarine supply the same number of calories per serving.

Q4. What types of desserts should be offered? How often should desserts be served?

A4. Only certain types of desserts are creditable in the Child and Adult Care Food Program. Fruits can be served as often as desired for dessert. Grain-based desserts such as cakes and cookies are not creditable in the CACFP as a dessert at lunch or supper. However, grain-based desserts may be served as a component for snacks. It is recommended that cookies and other baked products be served for snacks no more than two times per week.

Some desserts are high in sugar, fat and saturated fat, and should be served occasionally. For more information on the types of baked products that may be credited, refer to the section, "Crediting Foods."

Q5. How many calories are needed for a child?

A5. The average daily caloric need of children 4-6 years of age is 1600 calories, children 2-3 years old need about 1300 calories. A healthy diet including a variety of foods should provide sufficient calories.



Q6. How often can eggs be served to children?

A6. Avoid eggs in the first year of life because of the potential to create an allergy. It is recommended that egg yolks and whole eggs be served to children over one year of age occasionally. This includes eggs served plain and those used in baked or cooked products.

Q7. Can I serve chocolate milk to children?

A7. Chocolate milk may be served to children. If possible, try to serve low-fat varieties to children age two and older.

Q8. Can I serve water as the beverage at snack time?

A8. Yes, water can and should be offered as a beverage in addition to the required two snack components. Children need to be offered water throughout the day.

Q9. What are some healthy food choices that can be served when celebrating birthdays and other special occasions?

A9. Creditable foods, such as muffins, graham crackers, or quick breads, can be served as healthier alternatives to traditional goodies when celebrating special days.

Q10. Are there good and bad foods?

A10. Foods should not be identified as good or bad foods. The nutritional quality of a diet is not defined by any single food, but rather by the variety and quantity of food eaten during each day.

Q11. What advice can be provided to parents who request a vegetarian diet for children?

A11. Parents should be cautioned that unless the vegetarian diet is carefully planned, essential nutrients may not be supplied in quantities necessary to support growth and development. More detailed information on vegetarian diets is provided earlier in this section.